

CHAPTER 5

WATER QUALITY PARTNERSHIPS IN THE OCOEE RIVER WATERSHED

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5.1 BACKGROUND. The Watershed Approach relies on participation at the federal, state, local and nongovernmental levels to be successful. Two types of partnerships are critical to ensure success:

- Partnerships between agencies
- Partnerships between agencies and landowners

This chapter describes both types of partnerships in the Ocoee River Watershed. The information presented is provided by the agencies and organizations described.

5.2 FEDERAL PARTNERSHIPS.

5.2.A. Natural Resources Conservation Service. The Natural Resources Conservation Service (NRCS), an agency of the U.S. Department of Agriculture, provides technical assistance, information, and advice to citizens in their efforts to conserve soil, water, plant, animal, and air resources on private lands.

Performance & Results Measurement System (PRMS) is a Web-based database application providing USDA Natural Resources Conservation Service, conservation partners, and the public fast and easy access to accomplishments and progress toward strategies and performance. The PRMS may be viewed at <http://sugarberry.itc.nrcs.usda.gov/netdynamics/deeds/index.html>. From the PRMS Products Menu, select "Products," then select "Conservation Treatments." Select the desired program and parameters and choose "Generate Report."

The data can be used to determine broad distribution trends in service provided to customers by NRCS conservation partnerships. These data do not show sufficient detail to enable evaluation of site-specific conditions (e.g., privately-owned farms and ranches) and are intended to reflect general trends.

CONSERVATION PRACTICE	ACRES
Conservation Buffer	9
Erosion Control	387
Irrigation Management	0
Nutrient Management Applied	439
Pest Management	439
Prescribed Grazing	104
Salinity and Alkalinity Control	0
Tree and Shrub Practices	0
Tillage and Residue Management	309
Wildlife Habitat Management	0
Wetlands Created, Restored, and Enhanced	0
Total	1,686

Table A5-1. Landowner Conservation Practices in Partnership with NRCS in Tennessee Portion of Ocoee River Watershed. Data are from PRMS for October 1, 1999 through September 30, 2000 reporting period. More information is provided in Ocoee-Appendix V.

5.2.B. United States Forest Service. The USDA Forest Service manages approximately 635,000 acres in Tennessee (Cherokee National Forest). This ownership includes about 106,000 acres within the Watauga River watershed and about 71,000 acres within the Ocoee River watershed in Tennessee. The general mission of the Forest Service is to achieve an ecological and sustainable multiple use approach to land management that meets the diverse needs of people. In order to achieve this mission a watershed-based approach to ecosystem management has been adopted.

A variety of common management activities occur within these watersheds on national forest lands. These include:

- Completion of a general watershed analysis of all 5th level watersheds that encompass Forest Service ownership in Tennessee, including the Ocoee and Watauga Rivers
- Collaborative planning with a variety of other Federal, State and local agencies and private individuals to identify and prioritize watershed improvement needs on public and private lands
- Watershed improvements including road decommissioning to reduce soil loss and sediment yield
- Fisheries habitat improvements in selected streams
- A program of prescribed burning and timber harvest to improve forest health and wildlife habitat conditions

- Providing a variety of land and water based recreation opportunities

In addition to these common management activities, specific activities occurring in the Ocoee River Watershed include:

- Environmental education programs conducted by the Ocoee Whitewater Center located on the Ocoee River and at schools located within the watershed
- Collaborative management of entire Hiwassee River Basin including Ocoee River watershed is taking place through the efforts of an interagency team

Further information about the Cherokee National Forest can be found on its homepage at <http://www.southernregion.fs.fed.us/cherokee>.

5.2.C. Tennessee Valley Authority (TVA). TVA's vision for the 21st century is to generate prosperity for the Tennessee Valley by promoting economic development, supplying low-cost, reliable power, and supporting a thriving river system. TVA is committed to the sustainable development of the region and is engaged in a wide range of watershed protection activities. To assist communities across the Tennessee Valley actively develop and implement protection and restoration activities in their local watersheds, TVA formed 12 multidisciplinary Watershed Teams. These teams work in partnership with business, industry, government agencies, and community groups to manage, protect, and improve the quality of the Tennessee River and its tributaries for fishing, swimming, drinking, and recreational uses. TVA also operates a comprehensive monitoring program to provide real time information to the Watershed Teams and other entities about the conditions of these resources. The following is a summary of TVA's resource stewardship activities in the Ocoee River watershed.

MONITORING

Vital Signs Monitoring

Reservoir Monitoring: TVA has regularly monitored the quality of water resources of the Ocoee River watershed as part of its Vital Signs Monitoring effort since 1991. Physical, chemical, and biological indicators (dissolved oxygen, chlorophyll, sediment chemistry, benthos, and fish) provide information from various habitats on the ecological health of the reservoir. Sampling is done in the forebay area at Parksville (Ocoee #1) reservoir (Ocoee River Mile 12.5).

Numeric ratings are given to all of the indicators sampled at each station. The lowest possible rating for any indicator is 1 (poorest condition) while the highest rating is 5 (best condition). The rating for sediment chemistry is an exception; 0.5 is the lowest while 2.5 is the highest. This information is used to evaluate conditions at each location as well as to develop an ecological health score for the reservoir. To obtain this score, ratings from all locations are summed and divided by total possible points for the reservoir. The result is then multiplied by 100. The lowest possible score is 20, the highest is 100.

The following chart presents Reservoir Vital Signs scores for all years for which data are available. Reservoir Vital Signs samples will be collected again in 2001. Results will be made available when analyses are complete. As can be seen in the chart below, the ecological health score has declined. The indicators primarily responsible for this decline are fish community, bottom life and sediment quality. Because of this, the Parksville Reservoir score in 1999, was the lowest to date.

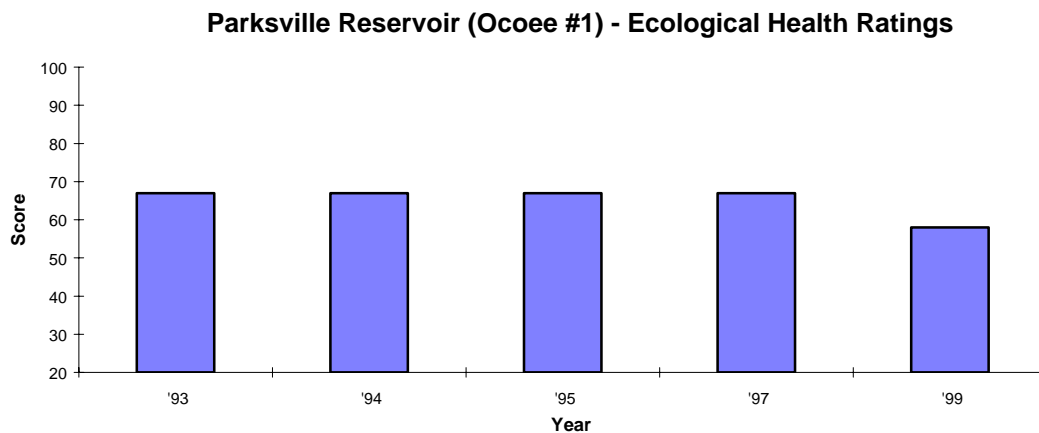


Figure A5-1. Ecological Health Ratings for Parksville Reservoir.

Vital Signs Monitoring Indicators - 1999

Dissolved oxygen: As in past years, dissolved oxygen (DO) concentrations remained relatively high throughout the year.

Chlorophyll: Chlorophyll concentrations were quite low (as expected given the nutrient-poor soils in the surrounding watershed), resulting in a good rating for this indicator.

Fish: The fish community diversity and overall density were lower than expected, indicating adverse environmental conditions.

Bottom life: The number and variety of animals found in samples taken from the reservoir bottom was relatively low, indicating poor environmental conditions for these organisms.

Sediment quality: Sediment quality remains the most important ecological health issue for Parksville Reservoir. Past mining practices in the Copper Basin left a legacy of very high concentrations of several metals—arsenic, cadmium, copper, iron, lead, and zinc. In addition, elevated amounts of PCBs have been found historically in the sediment.

Further information on Vital Signs Monitoring can be obtained by writing to Donald Dycus at: Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee, 37402 or calling him at 423/751-7322.

Bacteriological sampling

There are no advisories against swimming in Parksville Reservoir or in the Ocoee River flowing into the reservoir. TVA checked fecal coliform bacteria levels in samples from five stream canoe access sites and two Parksville Reservoir swimming beach sites in 2000. Four of the canoe access sites were on the floatway upstream of the reservoir and one site was downstream of Ocoee #1 Dam. All canoe access sites met the State of Tennessee bacteriological water quality criteria for water contact recreation [Tennessee's criteria for water contact recreation requires the collection of at least 10 fecal coliform samples within a 30 day period, with a geometric mean less than 200 fecal coliform colonies per 100 milliliters of water. Also, no single sample should exceed 1,000 colonies per 100 milliliters.].

Mac Point and Parksville Beach swimming areas were sampled by the U.S. Forest Service from May through August, with three samples being taken from each area once each week for the whole period (a total of 51 samples from each area). None of the samples exceeded 47 fecal coliform colonies per 100 milliliters of water.

Bacteriological sampling locations and results for canoe access areas are:

Sampling Locations		Geometric Means			Max.
		All	Rain	Base	
Ocoee River Canoe Access Site	Ocoee RM 11.7	10	10	10	10
Ocoee River Canoe Access Site	Ocoee RM 19.6	24	20	25	270
Ocoee River Canoe Access Site	Ocoee RM 19.7	27	10	34	410
Caney Creek Canoe Access Site	Caney CM 0.1	18	20	17	170
Ocoee River Canoe Access Site	Ocoee RM 24.2	21	14	23	180

Table A5-2. TVA Sampling Locations in Ocoee River watershed.

Boat ramps are scheduled for sampling every other year. Data from this sampling effort is shared in a timely manner with TDEC's Division of Water Pollution Control.

Fish Flesh Toxic Contaminants

There are no fish consumption advisories for Parksville Reservoir. TVA collected channel catfish and largemouth bass from Parksville for tissue analysis in autumn 1999. All contaminant levels were either below detectable levels or below the levels used by the states to issue fish consumption advisories.

Stream Bioassessment

Conditions of water resources in the Ocoee River watershed streams were measured using three independent methods; Index of Biotic Integrity (IBI), number of mayfly, stonefly, and caddisfly taxa (EPT), and Habitat Assessment. Not all of these tools were used at each stream sample site.

IBI - The index of biotic integrity (IBI) assesses the quality of water resources in flowing water by examining a stream's fish assemblage. Fish are useful in determining long-term (several years) effects and broad habitat conditions because they are relatively long-lived and mobile. Twelve metrics address species richness and composition, trophic structure (food preferences), fish abundance, and fish condition. Each metric reflects the condition of one aspect of the fish assemblage and is scored against reference streams known to be of very high quality. Potential scores for each of the twelve metrics are 1-poor, 3-intermediate, or 5-the best to be expected. Scores for the 12 metrics are summed to produce the IBI for the site.

EPT - As with fish, the number and types of aquatic insects are indicative of the general quality of the environment in which they live. Unlike fish, aquatic insects are useful in determining short-term and localized impacts because they are short-lived and have limited mobility. The assessment method TVA uses involves only qualitative sampling and field identification of mayflies (Ephemeroptera), stoneflies (Plecoptera), and caddisflies (Trichoptera) to the family taxonomic level (EPT). The score for each site is simply the number of EPT families. The higher EPT scores are indicative of high quality streams because these insect larvae are intolerant of poor water quality.

Habitat Assessment - The quality and quantity of habitat (physical structure) directly affect aquatic communities. Habitat assessments are done at most stream sampling sites to help interpret IBI and EPT results. If habitat quality at a site is similar to that found at a good reference site, any impacts identified by IBI and EPT scores can reasonably be attributed to water quality problems. However, if habitat at the sample site differs considerably from that at a reference site, lower than expected IBI and EPT scores might be due to degraded habitat rather than water quality impacts.

The habitat assessment method used by TVA (modified EPA protocol) compares observed instream, channel, and bank characteristics at a sample site to those expected at a similar high-quality stream in the region. Each of the stream attributes listed below is given a score of 1 (poorest condition) to 4 (best condition). The habitat score for the sample site is simply the sum of these attributes. Scores can range from a low of 10 to a high of 40:

1. Instream cover (fish)
2. Epifaunal substrate
3. Embeddedness
4. Channel Alteration
5. Sediment Deposition
6. Frequency of Riffle
7. Channel Flow Status
8. Bank vegetation protection - Left bank and right bank, separately
9. Bank stability - Left bank and right bank, separately
10. Riparian vegetation zone width - Left bank and right bank, separately

Stream Bioassessment Results - Between 1993 and 1999, TVA conducted 40 bioassessments on the Ocoee River and its tributaries. The lowermost site sampled on the Ocoee River, ORM 2.5, is monitored every two years. The remaining sites are monitored on a five year rotational schedule. Several additional sites in the Ocoee have been assessed for special project level activities.

The fish community at the lowermost site on the mainstem Ocoee River, ORM 2.5, appears to have shown some improvement over the last few years. From 1994 until 1997, the IBI scores ranged from 34 to 38. The score improved to 46 in 1999. During the same time period, the benthic community has also shown improvement, though not as much as the fish community. Ocoee River mile 2.5 will be monitored again in 2001.

Over the past 8 years several other sites on the Ocoee and its tributaries have been sampled, but not with the frequency of the lower most site (ORM 2.5). Most of these sites have been sampled only once, with a few exceptions for certain streams with historically poor water quality. Most streams draining into the Ocoee River, especially those in the Parksville Reservoir and Ocoee No. 2 impoundment segments, support fairly healthy benthic communities. The ecological health of the fish communities in these same streams is a bit harder to interpret, as there are naturally fewer species of fish in the Blue Ridge ecoregion than in lower elevation streams. Most fish communities in streams draining to Parksville Reservoir and Ocoee No. 2 have low diversity. One notable exception is Greasy Creek, with a score 50. Fourteen native fish species were recorded, as well as the non-native, angler-prized rainbow trout. On the other end of the spectrum, Fourmile Creek, in Benton TN, had scores of 26 at River Mile 1 and 36 at River Mile 2 in 1997.

Ecological conditions deteriorate both in the mainstem and tributaries of the Ocoee River upstream towards the Copper Basin, with the greatest impacts being to the fish communities. Monitoring sites on Brush Creek, North Potato Creek, and Walkerton Branch have repeatedly produced low scores ranging from 18 to 36. Conditions do not appear to have improved for any of these sites over time. Fish communities, widely accepted as long-term indicators ecological health, have thus far been unable to recover in these streams. However, benthic communities in these creeks are faring somewhat better than the fish. Although several families of insects have been reported, densities are extremely low.

Six additional bioassessment sites on the mainstem of the Ocoee River, between the Ocoee No. 2 Powerhouse and the state line have been monitored. The score near the Ocoee No. 2 Powerhouse was 28 while upstream about 3 miles, near Goforth Creek, no fish were collected despite aggressive sampling efforts. Moving farther upstream about 12 miles, near the mouth of North Potato Creek, scores were still very low, 26 in 1995 and 30 in 1997. The uppermost sampling site, located just below the McCaysville Sewage Treatment Plant discharge, had an IBI score of 36, an improvement compared to sites downstream. Benthic communities at the aforementioned sites had average diversity and well below average density of pollution sensitive organisms with scores ranging from 11 to 21.

Details about stream bioassessment sampling sites and scores can be obtained by writing Charles Saylor at Tennessee Valley Authority, PO Box 920, Ridge Way Road, Norris, TN 37818 or calling him at 865/632 -1779.

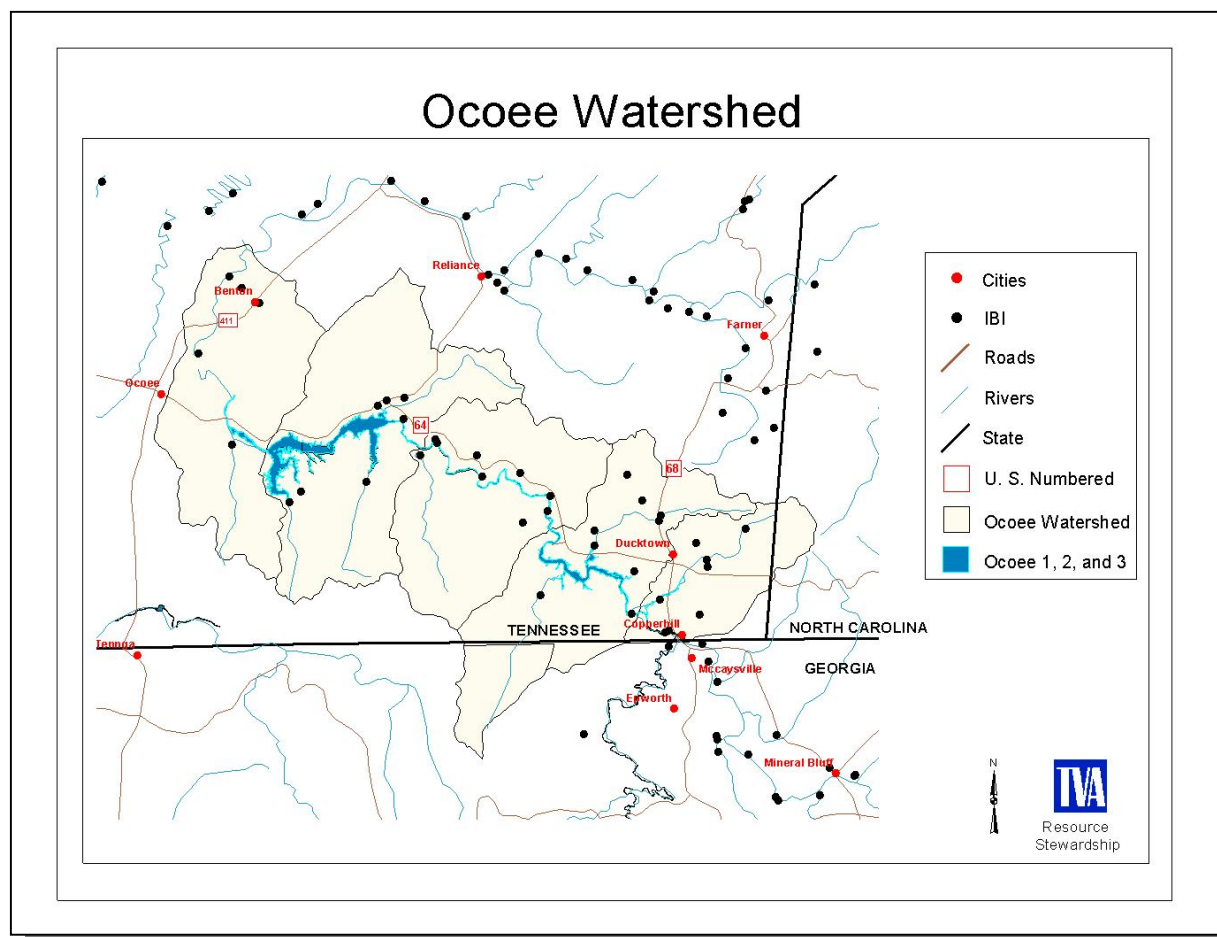


Figure A5-2. TVA Sampling Sites in Ocoee River Watershed and Vicinity.

WATERSHED ASSISTANCE

Outreach

The National Clean Boating Campaign is a partnership program which highlights the importance of clean water so boating will continue to be fun for future generations. The program demonstrates how boaters can be good stewards of their water environment through best boating and marina practices. The Clean Boating Campaign on the Ocoee Reservoirs consisted of distributing materials to local marinas that expressed an interest in the program. TVA plans to continue this partnership in upcoming years by working with the marinas and other concerned individuals.

The Tennessee Valley Clean Marina Initiative is an effort by TVA to promote environmentally-responsible marina practices. This voluntary program, established in support of the National Clean Boating Campaign, will help marina operators protect the resource that provides them with their livelihood. Plans are to implement this program

on the Ocoee River reservoirs in 2001 and continue as long as it brings about positive change.

There are many special interest groups in the Ocoee River watershed that are striving to protect the valuable land and water-based resources in the watershed through grassroots efforts. TVA is supporting these groups by providing speakers for their meetings, detailed technical support, and limited financial support for resource improvement activities. TVA is also helping the watershed groups expand their programs with other projects like the Clean Boating Campaign and seedling give-aways for shoreline stabilization demonstrations.

Protection and restoration activities

TVA is continuing support for the Cooperative Copper Basin Land Reclamation Project that addresses soil erosion control on the lands denuded by crude copper smelting and other land use practices that occurred between the 1850s-1930s. Severe soil erosion of topsoil and subsoil occurred on 23,000 acres. In 1984, the remaining problem acreage was identified at 12,612. Since 1984, cooperators have reclaimed 10,517 acres with vegetative treatments and installed two major surface water sediment control structures (one of which has not been used to date). This work has made major improvements in controlling offsite sedimentation into the Ocoee River and three downstream Ocoee Reservoirs and abrasive damage to hydro-electric facilities. This leaves only 2,095 acres of partially vegetated lands in need of work to help restore watershed protection benefits. The remaining 2,095 acres in need of reclamation is about 10 percent of the 23,000 acres originally completely denuded.

TVA is also providing detailed technical assistance to cooperative efforts involving resource improvements throughout other areas in the Ocoee River watershed. These efforts include improving public use benefits, reducing sediment runoff, improving riparian zone conditions, and stabilizing critical shoreline and streambank sites.

Further information on Watershed Assistance can be obtained by writing to Gary Springston at: Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee, 37402 or calling him at 423/751-7336.

5.3 STATE PARTNERSHIPS.

5.3.A. TDEC Division of Water Supply. Congress, the Environmental Protection Agency, and the states are increasing their emphasis on the prevention of pollution, particularly in the protection of the raw water sources for public water systems. The initial step toward prevention of contamination of public water supplies came with the Federal Safe Drinking Water Act Amendments of 1986. At that time, each state was required to develop a wellhead protection program to protect the water source of public water systems relying on groundwater (wells or springs). The new Source Water Assessment provisions of the Federal Safe Drinking Water Act of 1996 Amendments expanded the scope of protection beyond groundwater systems to include protection of the waters supplying surface water systems.

More information may be found at: www.state.tn.us/environment/dws.

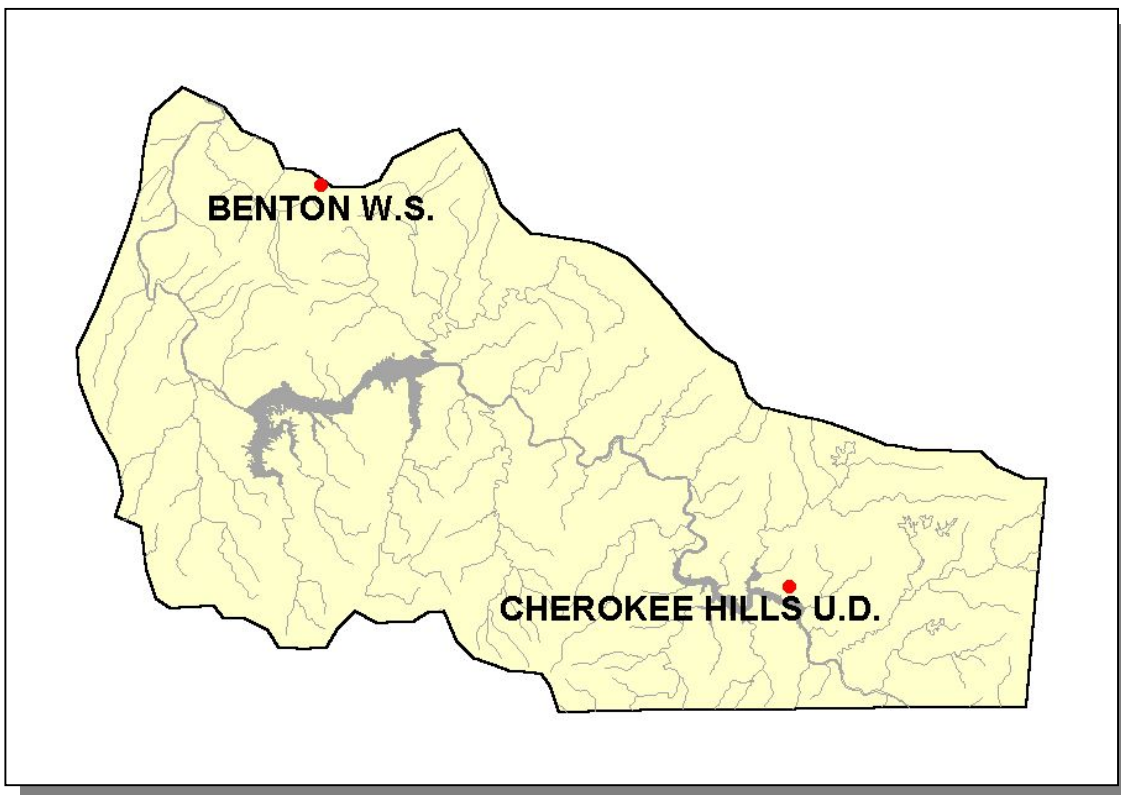


Figure A5-2. Location of Communities Using Groundwater for Water Supply in Ocoee River Watershed. More Information is presented in Ocoee-Appendix V.

A “wellhead” is the source area for the water, which is withdrawn through a well or spring, similar to the concept of the head of a river. To protect the water supply, it is important to know from where the water flowing to that well or spring is coming. Source water/wellhead protection areas for public water systems using groundwater are generally based on hydrologic considerations and/or modeling. Source water protection

areas for public water systems using surface water are based on the portion of the watershed area upstream of the water intake.

There are three basic steps involved in a wellhead protection program: 1) defining the wellhead protection area, 2) inventorying the potential contaminant sources within that area, and 3) developing a wellhead protection plan. The official designation of wellhead protection areas provides valuable input and emphasis to government agencies in the siting of facilities and the prioritization and cleanup of contaminated sites.

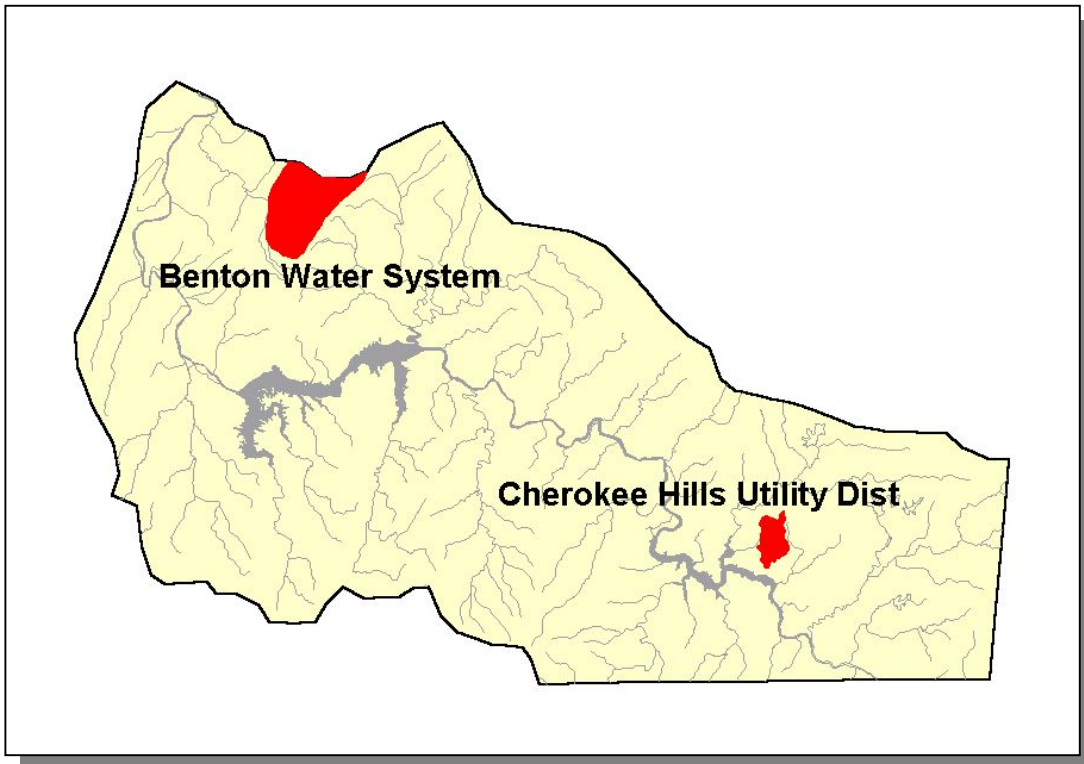


Figure A5-3. Location of Communities in the Wellhead Protection Program in Ocoee River Watershed. More Information is presented in Ocoee-Appendix V.

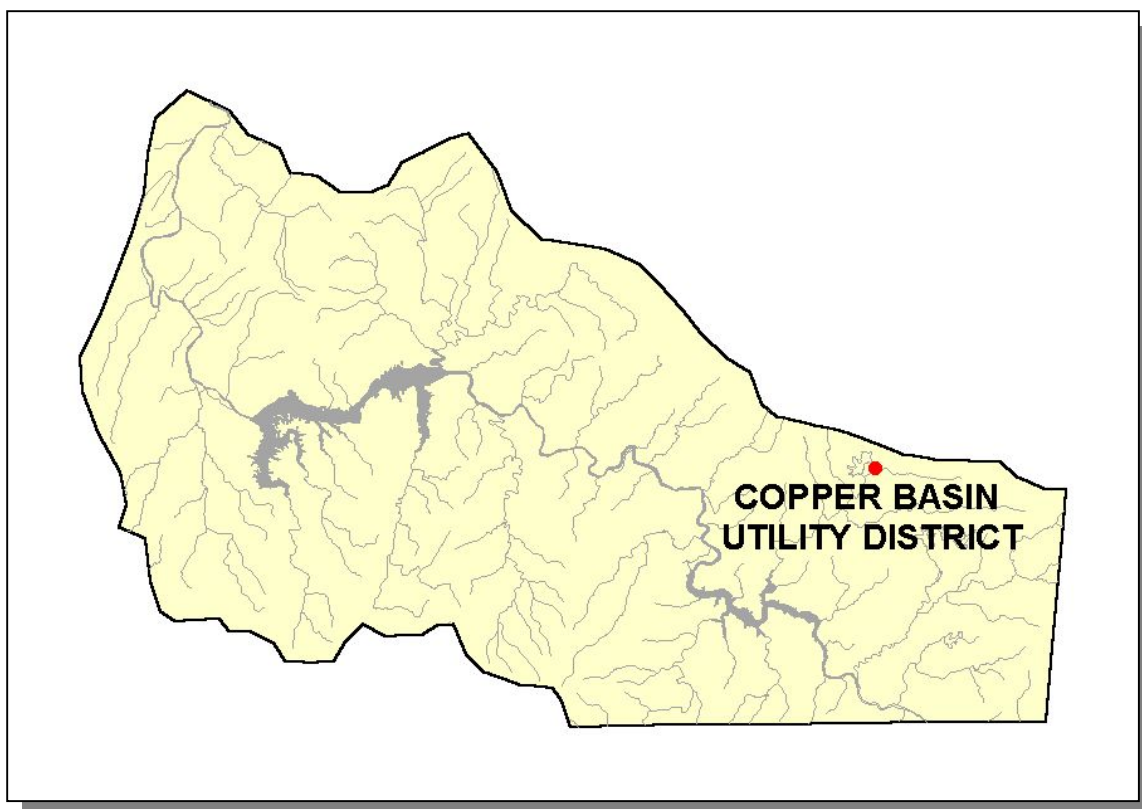


Figure A5-4. Location of Communities with Surface Water Intakes for Water Supply in Ocoee River Watershed. More Information is presented in Ocoee-Appendix V.

As a part of the Source Water Assessment Program, public water systems are evaluated for their susceptibility to contamination. These individual source water assessments with susceptibility analyses are available to the public at <http://www.state.tn.us/environment/dws> as well as other information regarding the Source Water Assessment Program and public water systems.

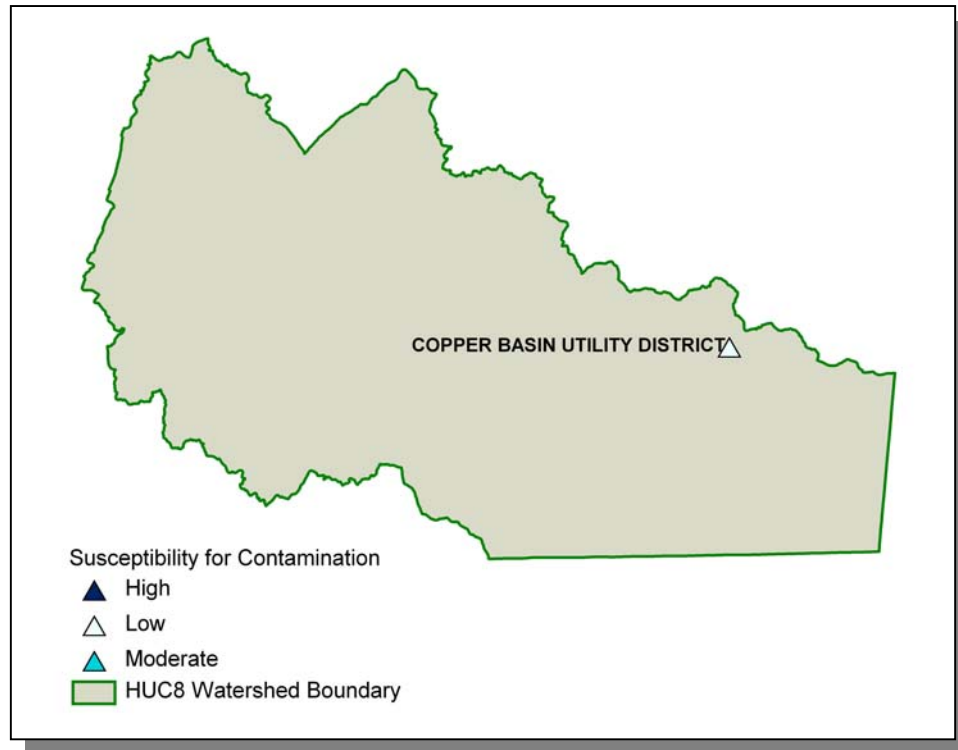


Figure A5-5. Susceptibility for Contamination in the Ocoee River Watershed.

5.3.B. State Revolving Fund. TDEC administers the state's Clean Water State Revolving Fund Program. Amendment of the Federal Clean Water Act in 1987 created the Clean Water State Revolving Fund (SRF) Program to provide low-interest loans to cities, counties, and utility districts for the planning, design, and construction of wastewater facilities. The U.S. Environmental Protection Agency awards annual capitalization grants to fund the program and the State of Tennessee provides a twenty-percent funding match. TDEC has awarded loans totaling approximately \$550 million since the creation of the SRF Program. SRF loan repayments are returned to the program and used to fund future SRF loans.

SRF loans are available for planning, design, and construction of wastewater facilities, or any combination thereof. Eligible projects include new construction or upgrading/expansion of existing facilities, including wastewater treatment plants, pump stations, force mains, collector sewers, interceptors, elimination of combined sewer overflows, and nonpoint source pollution remedies.

SRF loan applicants must pledge security for loan repayment, agree to adjust user rates as needed to cover debt service and fund depreciation, and maintain financial records that follow governmental accounting standards. SRF loan interest rates range from zero percent to market rate, depending on the community's per-capita income, taxable sales, and taxable property values. Most SRF loan recipients qualify for interest rates between 2 and 4 percent. Interest rates are fixed for the life of the term of the loan. The maximum loan term is 20 years or the design life of the proposed wastewater facility, whichever is shorter.

TDEC maintains a Priority Ranking System and Priority List for funding the planning, design, and construction of wastewater facilities. The Priority Ranking List forms the basis for funding eligibility determinations and allocation of Clean Water SRF loans. Each project's priority rank is generated from specific priority ranking criteria and the proposed project is then placed on the Project Priority List. Only projects identified on the Project Priority List may be eligible for SRF loans. The process of being placed on the Project Priority List must be initiated by a written request from the potential SRF loan recipient or their engineering consultant. SRF loans are awarded to the highest priority projects that have met SRF technical, financial, and administrative requirements and are ready to proceed.

Since SRF loans include federal funds, each project requires development of a Facilities Plan, an environmental review, opportunities for minority and women business participation, a State-approved sewer use ordinance and Plan of Operation, and interim construction inspections.

For further information about Tennessee's Clean Water SRF Loan Program, call (615) 532-0445 or visit their Web site at <http://www.tdec.net/srf>.

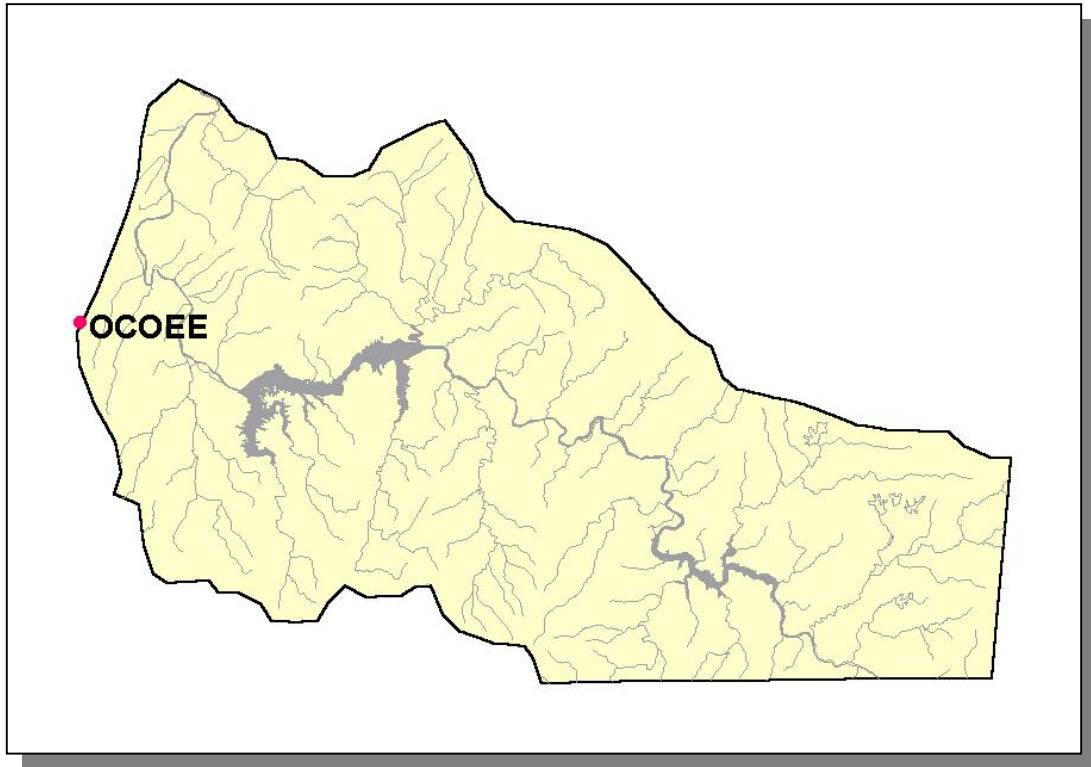


Figure A5-6. Location of Communities Receiving SRF Loans or Grants in the Ocoee River Watershed. More information is provided in Ocoee-Appendix V.

5.3.C. Tennessee Department of Agriculture. The Tennessee Department of Agriculture's Water Resources Section consists of the federal Section 319 Nonpoint Source Program and the Agricultural Resources Conservation Fund Program. Both of these are grant programs which award funds to various agencies, non-profit organizations, and universities that undertake projects to improve the quality of Tennessee's waters and/or educate citizens about the many problems and solutions to water pollution. Both programs fund projects associated with what is commonly known as "nonpoint source pollution."

The Tennessee Department of Agriculture's Nonpoint Source Program (TDA-NPS) has the responsibility for management of the federal Nonpoint Source Program, funded by the US Environmental Protection Agency through the authority of Section 319 of the Clean Water Act. This program was created in 1987 as part of the reauthorization of the Clean Water Act, and it established funding for states, territories and Indian tribes to address NPS pollution. Nonpoint source funding is used for installing Best Management Practices (BMPs) to stop known sources of NPS pollution, training, education, demonstrations and water quality monitoring. The TDA-NPS Program is a non-regulatory program, promoting voluntary, incentive-based solutions to NPS problems. The TDA-NPS Program basically funds three types of programs:

- **BMP Implementation Projects.** These projects aid in the improvement of an impaired waterbody, or prevent a non-impaired water from becoming listed on the 303(d) List.
- **Monitoring Projects.** Up to 20% of the available grant funds are used to assist the water quality monitoring efforts in Tennessee streams, both in the state's 5-year watershed monitoring program, and also in performing before-and-after BMP installation, so that water quality improvements can be verified.
- **Educational Projects.** The intent of educational projects funded through TDA-NPS is to raise the awareness of landowners and other citizens about practical actions that can be taken to eliminate nonpoint sources of pollution to the waters of Tennessee.

The Tennessee Department of Agriculture Agricultural Resources Conservation Fund Program (TDA-ARCF) provides cost-share assistance to landowners across Tennessee to install BMPs that eliminate agricultural nonpoint source pollution. This assistance is provided through Soil Conservation Districts, Resource Conservation and Development Districts, Watershed Districts, universities, and other groups. Additionally, a portion of the TDA-ARCF is used to implement information and education projects statewide, with the focus on landowners, producers, and managers of Tennessee farms and forests.

Participating contractors in the program are encouraged to develop a watershed emphasis for their individual areas of responsibility, focusing on waters listed on the Tennessee 303(d) List as being impaired by agriculture. Current guidelines for the TDA-ARCF are available. Landowners can receive up to 75% of the cost of the BMP as a reimbursement.

The Tennessee Department of Agriculture has spent \$13,187 for Agriculture BMPs in the Ocoee River Watershed since 1998. Additional information is provided in Ocoee Ocoee-Appendix V.

Since January of 1999, the Department of Agriculture and the Department of Environment and Conservation have had a Memorandum of Agreement whereby complaints received by TDEC concerning agriculture or silviculture projects would be forwarded to TDA for investigation and possible correction. Should TDA be unable to obtain correction, they would assist TDEC in the enforcement against the violator.

5.3.D. Tennessee Wildlife Resources Agency. The Tennessee Wildlife Resources Agency conducts a variety of activities related to watershed conservation and management. Fish management activities include documentation of fish and aquatic life through stream sampling and stocking of both warm water and cold water sportfish. Fish data are managed in the Geographic Information System (GIS) project called Tennessee Aquatic Data System (TADS). TWRA nongame and endangered species projects include restoration of special status fish ,aquatic life, and riparian wildlife including otters, and nongame fish such as the blue masked darter. The Agency conducts a variety of freshwater mussel management, conservation, and restoration projects including the propagation and reintroduction of species once common in Tennessee streams. TWRA has been involved in riparian conservation projects since 1991 in partnership with state and federal agencies and conservation groups.

For information on these and other water resources related activities, please contact your Regional TWRA office at the following phone numbers:

West Tennessee (Region I)	1-800-372-3928
Middle Tennessee (Region II)	1-800-624-7406
Cumberland Plateau (Region III)	1-800-262-6704
East Tennessee (Region IV)	1-800-332-0900.

TDD services are available @ 615-781-6691.
TWRA's website is <http://www.state.tn.us/twra>.

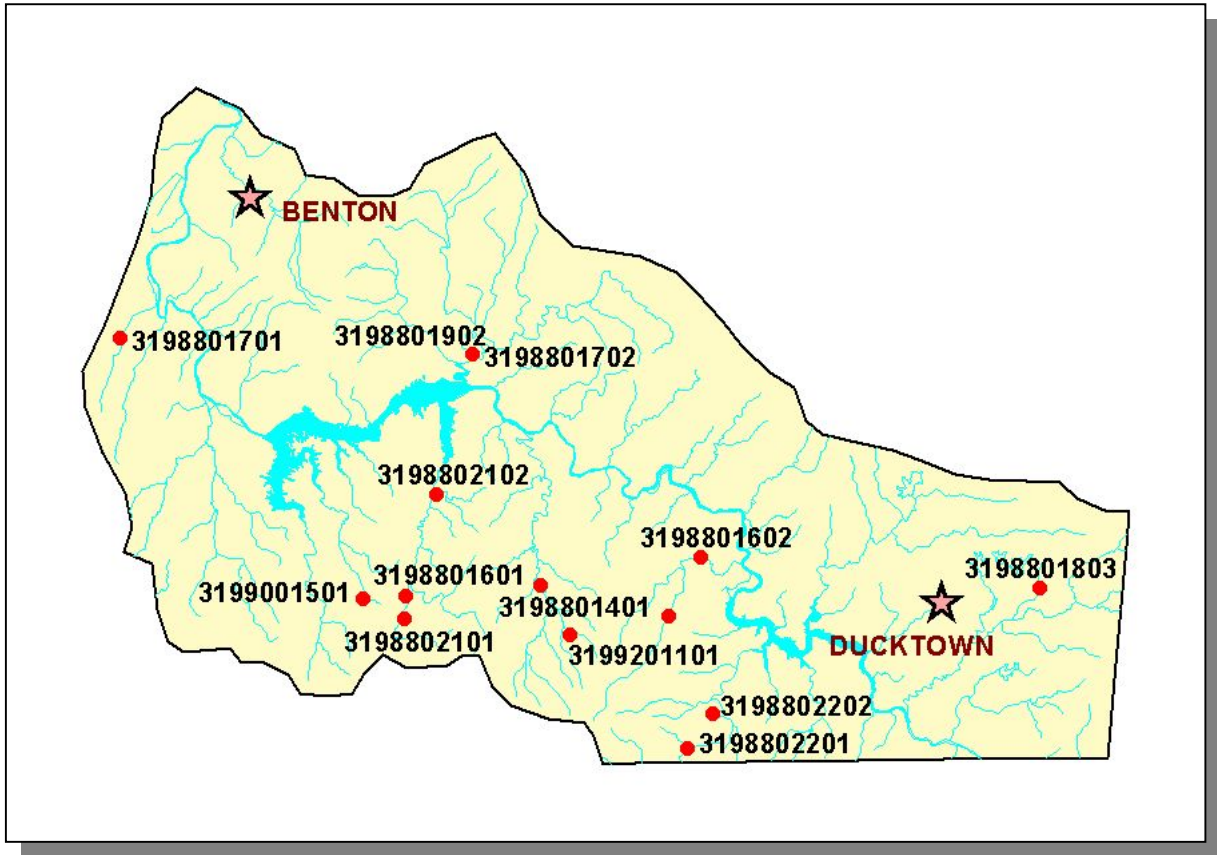


Figure A5-7. Location of TWRA TADS Sampling Sites in Ocoee River Watershed. Locations of Benton and Ducktown are shown for reference. More Information is presented in Ocoee-Appendix V.

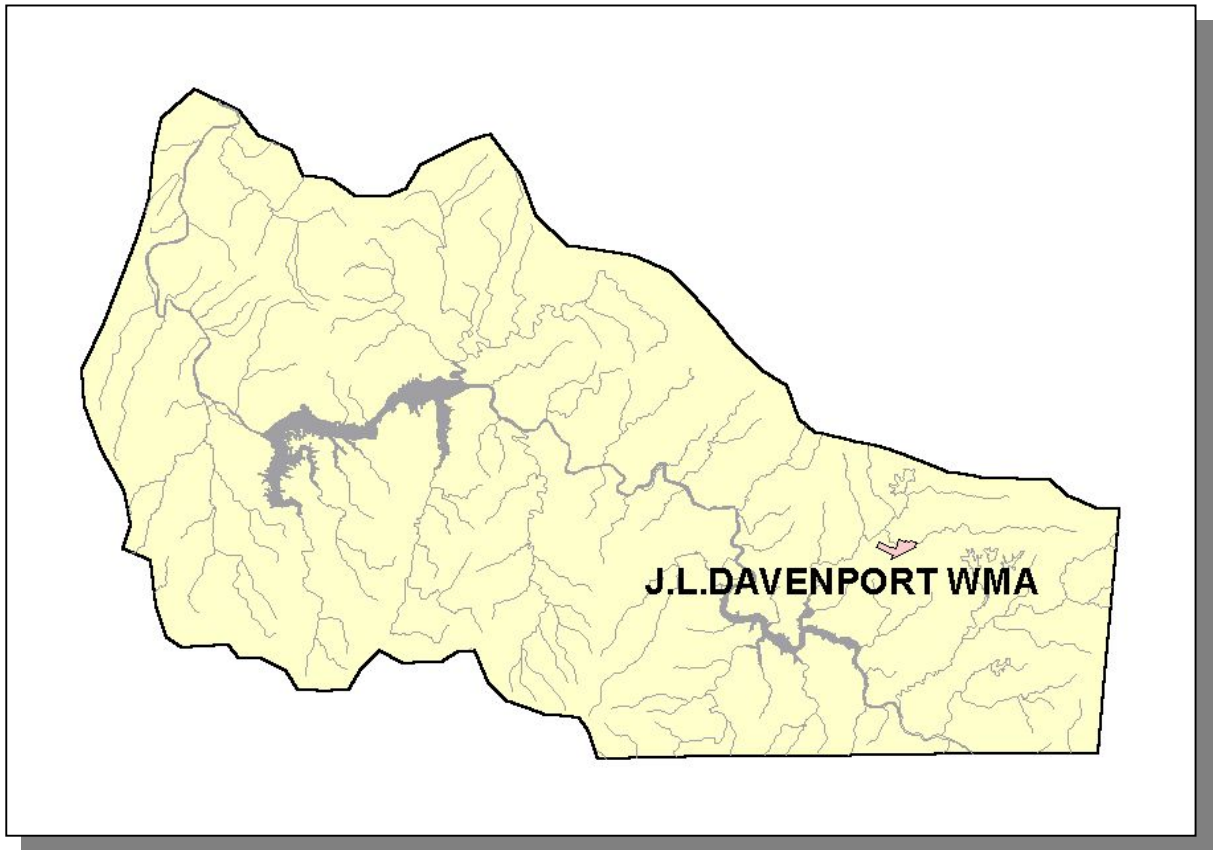


Figure A5-8. Location of TWRA Wetland Sites in Ocoee River Watershed Purchased with Wetland Mitigation Funds.

5.3.E. North Carolina's Basinwide Planning Program and Water Quality in the Ocoee River Watershed. Basinwide planning is a non-regulatory watershed-based approach to restoring and protecting the quality of North Carolina's surface waters. In an approach similar to that employed in the State of Tennessee, the North Carolina Division of Water Quality (DWQ) prepares water quality plans for each of 17 major river basins in the state according to a defined schedule. The plans are prepared in order to communicate to policymakers, the regulated community and the general public the state's rationale, approaches and long-term management strategies for each river basin. Each plan is circulated for public review and presented at public meetings in the basin. After implementation, the plans are re-evaluated, based on follow-up water quality monitoring, and updated at five-year intervals.

DWQ initiated basinwide planning activities in 1990, when it began conducting water quality monitoring for the first basinwide plan, published in 1993. Since then, DWQ has produced plans for all 17 river basins and has begun to update those plans for each basin. The new plans emphasize changes in water quality and give the status of recommendations made in the previous plan. Information about water quality in the Ocoee River watershed in North Carolina is included in the *Hiwassee River Basinwide Water Quality Management Plan*, published in 1997. DWQ is currently in the process of updating this basin plan. A public workshop was held in October of 2000 where results of recent water quality monitoring data was presented. A draft plan for public review will be available in fall of 2001 and public meetings to obtain comments on the draft will also be held at that time.

For more information concerning water quality in the Ocoee River watershed in North Carolina, visit the Basinwide Planning Program website or contact the Hiwassee River Basin Planner:

<http://h2o.enr.state.nc.us/basinwide/>

Callie Dobson
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1617 Mail Service Center
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